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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/689,472

10/20/2003

Christopher S. Caldwell

RTI-5

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06/05/2007

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EXAMINER

MAYO, TARA L

ART UNIT

PAPER NUMBER

3671

MAIL DATE

DELIVERY MODE

06/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/689,472

Applicant(s)

CALDWELL ET AL.

Examiner

Tara L. Mayo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 16 May 2007 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 through 3, 10, 11, 34 through 36, 43 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Halkyard (U.S. Patent No. 5,683,205 A).

Halkyard '205, as seen in Figure 5, shows a centralizer system (60) comprising:
with regard to claims 1 and 34,

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a metallic pipe (62; as admitted by cross section see MPEP 608.02) comprising a pipe outer diameter less than the inner diameter of a receptacle (68) so as to be insertable into the receptacle and relatively moveable within the receptacle (col. 3, lines 28 through 49);

a metallic upset portion (72) formed on said metallic pipe having an upset outer diameter greater than said pipe outer diameter, said pipe and said upset portion being a monolithic structure; and

a metallic centralizer (74; *metallic* as admitted by cross section, see MPEP) in gripping engagement with said upset portion on said metallic pipe whereby said centralizer and said upset are prevented from any relative movement, said centralizer having an outer diameter less than said receptacle inner diameter for insertion into said receptacle;

with regard to claims 2 and 35,

further comprising an upset transition zone on at least one side of said upset portion, said upset transition zone having an outer diameter equal to said upset portion on one end of said upset transition zone such that said outer diameter of said upset transition zone decreases with distance axially away from said upset portion;

with regard to claims 3 and 36,

wherein said centralizer is in gripping engagement with at least a portion of the transition zone (i.e., the end of the transition zone);

with regard to claims 10 and 43,

wherein said centralizer has an outer surface with a curvature portion for contact with said receptacle; and

with regard to claims 11 and 44,

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wherein said centralizer has a substantially cylindrical outer surface portion for contact with said receptacle.

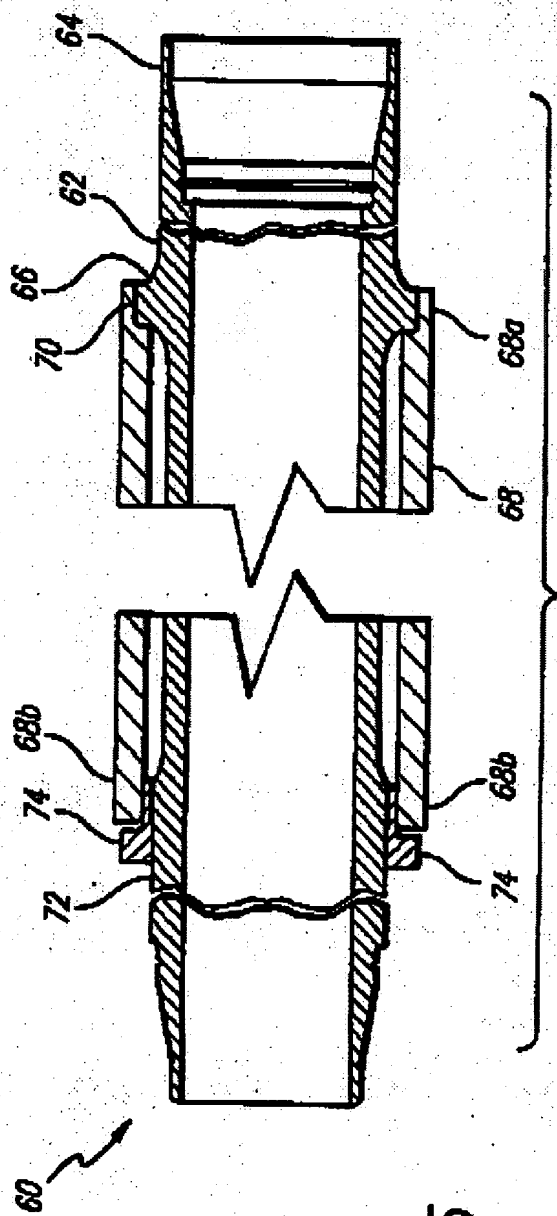


FIG. 5

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1. Claims 1 through 3, 10, 11, 18 through 20, 29, 32, 33 through 36, 43 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Finn et al. (U.S. Patent No. 6,648,074).

Finn et al. '074, as seen in Figure 11, disclose a centralizer system comprising:
with regard to claims 1, 18 and 34,

a metallic pipe (86) insertable into a receptacle (82);

a metallic upset portion (92) formed on said metallic pipe, said pipe and said upset portion being a monolithic structure; and

a metallic centralizer (94) in gripping engagement with said upset portion (col. 10, lines 44 through 45);

with regard to claims 2, 18 and 35,

an upset transition zone (90) on at least one side of said upset portion, the outer of said upset transition zone decreasing with distance axially away from said upset portion;

with regard to claims 3 and 36,

wherein said centralizer is also mounted to at least a portion of said upset transition zone;

with regard to claims 10 and 43,

wherein said centralizer has an outer surface with a curvature portion for contact with said receptacle (via element 108);

with regard to claims 11, 33 and 44,

wherein said centralizer has a substantially cylindrical outer surface portion for contact with said receptacle;

with regard to claim 19,

a second upset transition zone (second element labeled 90);

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with regard to claim 20,

wherein the first and second transition zones are mirror images with respect to each other;

with regard to claim 29,

wherein said centralizer grippingly engages said upset portion on said metallic pipe; and

with regard to claim 32,

wherein said centralizer has an outer tapered surface portion for contact with said receptacle.

With regard to claims 1, 18 and 34, the method of forming the device (i.e., by heat shrinking) is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 4 through 8, 15 through 17, 30, 37 and 38 through 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finn et al. (U.S. Patent No. 6,648,074 B2) in view of Morris (U.S. Patent No. 3,560,060).

Finn et al. '074 teach all of the features of the claimed invention recited in claims 16 and 17 and as addressed above.

Finn et al. '074 further disclose:
with regard to claims 4 and 37,
the centralizer being monolithic.

Finn et al. '074 disclose all of the features of the claimed invention with the exception(s) of:
with regard to claims 4 and 37,
the centralizer comprising water flow ports;
with regard to claims 5, 15, 30 and 38,
the centralizer defining at least one groove;
with regard to claims 6, 15, 30 and 39,

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the at least one groove being selectively positioned in the centralizer;
with regard to claims 7 and 40,

the at least one groove being positioned adjacent to a first end of the upset portion; and
with regard to claims 8 and 41,

two grooves positioned adjacent opposite ends of the upset portion.

Morris '060 shows, as seen in Figure 1, shows a centralizer (G) for a sucker rod (4) comprising multiple grooves/water flow ports (24) for permitting the flow of fluids around the guide in the tubing (col. 2, lines 54 through 57).

With regard to claims 4 and 37, it would have been obvious to one having ordinary skill in the art of marine structures at the time the invention was made to modify the device disclosed by Finn et al. '074 such that it would include water flow ports as taught by Morris '060. The motivation would have been to facilitate the flow of fluids around the centralizer thereby enhancing its stability.

With regard to claims 5 through 8, 15, 30 and 38 through 41, it would have been obvious to one having ordinary skill in the art of marine structures at the time the invention was made to modify the centralizer shown by Finn et al. '074 such that it would include grooves as taught by Morris '060. The motivation would have been to facilitate the flow of fluids around the centralizer.

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With regard to claim 15, the method of forming the device (i.e., by heat shrinking) is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Halkyard (U.S. Patent No. 5,683,205 A).

Halkyard '205, as seen in Figure 5, fails to teach :
an insulative coating on an outer surface of the centralizer.

Halkyard '205, as seen in Figures 3 and 4, shows a centralizer system comprising a sleeve member (42) including a coating (50) for resisting wear (col. 3, lines 7 through 10) caused by relative movement of the sleeve member in receptacle opening (30).

With regard to claim 9, it would have been obvious to one having ordinary skill in the art of marine structures at the time the invention was made to modify the device shown by Halkyard '205 in Figure 5 such that the centralizer would include an insulative coating on its outer surface as disclosed by Halkyard '205 in Figures 3 and 4 and in column 3 at lines 7 through 10. The motivation would have been to make the centralizer resistant to wear.

6. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Finn et al. (U.S. Patent No. 6,648,074) in view Angman et al. (U.S. Patent No. 6,585,052 B2).

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Finn et al. '074, as seen in Figure 11, disclose a method for constructing a centralizer system (106) within a receptacle (82) comprising the steps of:

with regard to claim 12

forming a pipe (86);

forming an upset portion (92); and

forming a centralizer (108); and

with regard to claim 14,

forming an upset transition zone with an outer diameter that decreases with axial distance away from said upset portion.

Finn et al. '074 fail to teach the steps of heating and cooling the centralizer.

Angman et al. '052 teach the steps of heating a centralizer (14), positioning the centralizer over an upset portion (16) of a pipe (12) and cooling the centralizer relative to the upset portion (col. 4, lines 52 through 65), whereby heating and subsequent cooling provides for increased engagement between the centralizer and the pipe.

With regard to claim 12, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method disclosed by Finn et al. '074 such that it would include the steps of heating and cooling the centralizer as taught by Angman et al. '052. The motivation would have been to provide for increased gripping engagement between the centralizer and the pipe (via insert 94).

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7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Finn et al. (U.S. Patent No. 6,648,074) in view Angman et al. (U.S. Patent No. 6,585,052 B2) as applied to claim 12 above, and further in view of Morris (U.S. Patent No. 3,560,060).

The combination of Finn et al. '074 and Angman et al. '052 discloses all of the steps of the claimed method with the exception(s) of:

with regard to claim 13,

creating an annular groove in the centralizer.

Morris '060 shows, as seen in Figure 1, shows a centralizer (G) for a sucker rod (4) comprising multiple grooves/water flow ports (24) for permitting the flow of fluids around the guide in the tubing (col. 2, lines 54 through 57).

With regard to claim 13, it would have been obvious to one having ordinary skill in the art of marine structures at the time the invention was made to modify the method disclosed by Finn et al. '074 and Angman et al. '052 such that it would include the step of creating grooves in the centralizer as taught by Morris '060. The motivation would have been to facilitate the flow of fluids around the centralizer thereby enhancing its stability.

8. Claims 21 through 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finn et al. (U.S. Patent No. 6,648,074).

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Finn et al. '074 further disclose:

with regard to claim 25,

the transition zone outer diameter comprising a convex profile in an elevational view thereof.

Finn et al. '074 disclose all of the features of the claimed invention with the exception(s) of:

with regard to claim 21,

the diameters of the first and second upset transition zones decreasing at different rates;

with regard to claim 22,

the transition zone outer diameter decreasing at a rate directly proportional to the axial distance from the upset portion;

with regard to claim 23,

the transition zone comprising a conical portion;

with regard to claim 24,

the transition zone outer diameter decreasing at a variable rate away from the upset portion;

with regard to claim 26,

the transition zone outer diameter comprising both a convex and a concave profile portion;

with regard to claim 27,

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the transition zone comprising both a straight profile portion and a curved profile portion;
and

with regard to claim 28,

the transition zone outer diameter being equal to the upset outer diameter on one end and
being equal to the pipe outer diameter on an opposite end.

With regard to claims 21 through 28, the limitations recited therein are directed to the shape of the transition zone. It would have been obvious to one having ordinary skill in the art of pipes at the time the invention was made since it has been held that absent persuasive evidence that the particular configuration of a claimed device is significant, the shape of the same is an obvious matter of choice for one of ordinary skill in the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

9. Claims 31 and 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Finn et al. (U.S. Patent No. 6,648,074 B2) in view of Halkyard (U.S. Patent No. 5,683,205 A).

Finn et al. '074 disclose all of the features of the claimed invention with the exception(s)
of:

with regard to claims 31 and 42,

an insulative coating on an outer surface of the centralizer.

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Halkyard '205, as seen in Figures 3 and 4, shows a centralizer system comprising a sleeve member (42) including a coating (50) for resisting wear (col. 3, lines 7 through 10) caused by relative movement of the sleeve member in receptacle opening (30).

With regard to claims 31 and 42, it would have been obvious to one having ordinary skill in the art of marine structures at the time the invention was made to modify the device shown by Finn et al. '074 such that the centralizer would include an insulative coating on its outer surface as taught by Halkyard '205. The motivation would have been to make the centralizer resistant to wear.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara L. Mayo whose telephone number is 571-272-6992. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571-272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


TARA I. MAYO
PRIMARY EXAMINER
Art Unit 3671

tlm
29 May 2007